INDEX TO VOLUME XV.

A

Academy of Nat. Sciences, Journal of, 466.
Proceedings of, 303, 304, 466.
Acoustic architecture, *Upham*, 215, 348.
Agardh, Species, etc., Algarum, noticed, 131.
Alexander, S., memoir by, on nebulæ, noticed, 300.
Algæ, on antheridia in, 455.
Alkaloids in opium, 423.
American Polytechnic Journal, 154, 302.
Analysis, on removing sal-ammoniac in, *J. L. Smith*, 94.
Deville's method in, 112.
process in, by *Fordos* and *Gelis*, 112.
on determining the alkalies in minerals, *J. L. Smith*, 234.
separation of manganese from iron and nickel in, *T. Schiel*, 275.
Analyses of minerals by *J. L. Smith* and *G. J. Brush*, 207.
C. Rammelsberg, 277.
Annstatic process, method of preventing forgery by, 144.
Animalcule, Pamphagus, a new genus of, *J. W. Bailey*, 311.
Animalcules, notice of Pritchard on, *J. W Bailey*, 299.
Analogy of Science, noticed, 153.
of the Astronomical Observatory of Georgetown College, D. C., 154.
Antimony, fluorid of, 273.
Architecture, acoustic, *Upham*, 215, 348.
Arsenic, determination of, in cases of poisoning, 119.
Artesian well at St. Louis, 460.
Asteroid, see *Planet*.
Astronomical observatories, effect of vibrations from carriages, etc., remedied, 265.
Atomic volume, note on, by *T. S. Hunt*, 116
Atoms, relation of specific heat to, 110.
Auroral Bow of June, 1852, *C. S. Lyman*, 55
Aurora Borealis for 1853, in Vermont, 336, 453.

B

Bailey, J. W., notice of Pritchard on animalcules, 299.
on a new animalcule, 311.
Baird and *Girard* on American reptiles, noticed, 465.
Bigelow, A, on mounds in Alabama, 186.
Birt, H. R, zodiacal light, 120.
Boston Society Natural History, Proceedings of, 156, 304.
Botany, see *Plants*.
Bread, note on, 267.
Breed, D, phosphoric acid in some of its relations to physiology and pathology, 275.
Brewster, D., on the form of images from lenses and mirrors of different sizes, 121.
on Dove's theory of lustre, 125.
on a tree struck by lightning, 125.
Brooke and Miller's Mineralogy reviewed, 41.
Brush, G. J., reëxamination of American minerals, 207.
Buch, von, obituary of, 464.
Burnett, W. I, relations of cells to the physical and teleological views of organization, 87.
Butyric alcohol, 112.

C

Caloric engine, Ericsson's, 284.
W. A. Norton on, 393.
engines, in France, 418.
Camera, binocular, 124.
Canada, *W. E. Logan* on Geology of, noticed, 129.
Canadian Journal, noticed, 154.
Carboniferous rocks in Rocky Mountains, 127.
of Ohio, coal bed in, 450.
Carex, distortion of the achenium in, 22.
Carices, etc., of Sartwell, noticed, 129.
Carey, J, distortion of the achenium in a carex, 22.
Carpenter's Principles of Human Physiology, noticed, 301.
Cells, relations of, to the physical and teleological views of organization, 87.
Chemical changes, on the theory of, *T. S. Hunt*, 150, 226.
Citrate of lime, products of the fermentation of, 427.
Clarke, W. S., Report by, on meteoric irons, 7.
Climate, on changes of, *W. Hopkins*, 72, 248, 334.
Coal bed in Ohio, *W. W. Mather*, 450.
Coal, brown, in Brandon, and fossil fruits, *E. Hitchcock*, 95.
Coan, T., eruption of M. Loa, 63.
Coast Survey Report noticed, 466.
Cobalt, allotropic modification of oxyd of, 120.
new compound of, *St. Evre*, 274.
Cocinon, myriston and lauro-stearon, 120.
Compass of tangents, 266, 425.
self-registering, 266.
Comet of Biela, 135.
new, of March, 1853, 457.
Coral reef, on the supposed elevated, of Maui, 459.
Cryptogamia, on sexual organs in the higher, *A. Henfrey*, 25.
on the sexual character of, 455.
Crustacea, new genus and species of, *J. Eights*, 135.

Crystals, tesseral, double refraction produced in, by pressure, 111, 426.
Cunningham, W. C., sea temperature, in the Pacific, 66.

D

Dalton, J. C., on the Proteus anguinus, 387.
Dana, J. D., on changes of level in the Pacific, 157.
on temperature as a cause limiting zoological distribution in depth in the sea, 204.
note on Seacchi's crystals of dimorphin, 432.
figure of crystal of clinochlore, 436.
form of crystal of algerite, 440.
note on triplite of Norwich, 445.
on the crystallization of chondrodite, 448.
note on crystallization of tabular spar, 449.
note by *C. F. Winslow*, to the paper on elevations in the Pacific by, 450.
Diamond, Kohinoor, 144.
Dilatations, method of determining, 113, 413.
Dove's Temperature Chart, 459.
theory of lustre, examined, 125.
Drake, D., obituary, 291.

E

Earthquake in New England, 146.
Edmunds, J., parallax of a star, 457.
Eights, J., new species of crustacea, 135.
Electro-caloric engine of M. Andrand, 422.
Electric telegraph from Europe to Africa, proposed, 270.
Electrical machines, improvement in, 268.
Electricity, Ruhmkorff's apparatus, 114.
Electro-magnet, a new kind, *J. Nicklès*, 104, 380.
Electrolytic Law, *Buff*, 427.
Electrotyping operations of the U. S. Coast Survey, 305.
Elephant, fossil, in Ohio, 146.
Elevations in the Pacific, *J. D. Dana*, 157.
Engine of M. Andrand, 422.
using the vapor of water at a higher temperature, 419.
of Beauregard, 420.
Ericsson's caloric engine, 284, 393, 418.

F

Fat, constitution of, *Heintz*, 428.
Fishes, on breeding in France, 425.
Forbes, E., Tunology of, noticed, 153.
Fossils of Rocky Mountains, *J. Hall*, 126.
Fossil bones, probably reptilian, in coal rocks of Nova Scotia, 279.
elephant, in Ohio, 146.
fruits, in Brown coal, *E. Hitchcock*, 95.
Pachydermata in Canada, 282.
Foster and *Whitney's* Geology of the Lake Superior Land District, Part II, noticed, 295.
Foucault's experiment, by a new method, 263.

G

Galvanic apparatus, *Ruhmkorff's*, 114.
interruptor of De La Rive, as improved by *Mirand*, 115.
Garrett, T. H., on Kämmererite, Bronzite, Emerald Nickel, Dolomite, 332.
Genth, F. A., allotropic modification of oxyd of cobalt, 120.
on a probably new element with iridosmine and platinum, 246.
on Rhodophyllite, 438.
Geological age of Lake Superior Red Sandstone, 299.
survey of Canada, Report on noticed, 129.
survey of Wisconsin, etc., *D. D. Owen*, 296.
survey of the Mauvaises Terres, 297.
theories and figure of the earth, *Hennessey*, 126.
Geology of Rocky Mountains, *J. Hall*, 126.
of Lake Superior Land District, by *Foster* and *Whitney*, Part II, noticed, 295.
Gray and *Adams's* work on, noticed, 465.
German Naturalists, meeting of, at Wiesbaden, 136.
Gibbs, Wolcott, chemical abstracts by, 117, 270, 425.
Girard and *Baird* on American reptiles, noticed, 465.
Glycerin, compounds of, with acids, 428.
manufacture of, 429.
Gold crystal, 448.
Gold in Canada, 448; in N. Carolina, 337; in Pennsylvania, 448; in Vermont, 147.
Gray, A., notices of Botanical works, 129, 279.
on new Nyctaginaceæ, 259, 319.
on discovery of species of Trichomanes, 324.
Gulf stream, effect of on temperature, 77, 336.

H

Hall, J., Palæontology of New York, by, noticed, 466.
on Rocky Mountains, 126.
Handbook of Universal Geography, noticed, 465.
Hawaian Islands, see *Pacific*.
Heat, relation of specific, to atoms, 110.
Helochromics, *Nieper*, 272.
Hendricks, J. E., on the flow of Elastic fluids, 378.
Hennessey, H., Figure of the Earth and Geological Theories, 126.
Henfrey, A., on Sexual Organs in the higher Cryptogamia, 25.
Hildreth, S. P., Meteorological Journal at Marietta, O., 243.
Hitchcock, E., on Brown Coal of Brandon, 95.
Hopkins, W., on Changes of Climate, 72, 248, 331.
Hubbard, O. P., Gold in Vermont, 147.
Humboldt's Letter on the death of von Buch, 464.
Hunt, T. S., note by, on atomic volume, 116.
on phosphatic nodules in Silurian rocks, 129.
Theory of Chemical Changes, 150, 226.
analysis of Serpentine, 436.
analysis of Sphene of Grenville, 442.
Hunter, C. L., Minerals of western North Carolina, 373.

I

Indian Mounds in Alabama, 186.
Iron, meteoric, *C. U. Shepard*, 1, 363.
W. S. Clarke, 7.
native in greenstone, *Dr. Andrews*, 443.
Isomerism, a new case of, *M. Pasteur*, 109.
Isothermals, on causes of changes in, *W. Hopkins*, 72, 248, 337.
Isothermal lines, chart of, 459.
Itzigsohn, on antheridia in a Borrera, 455.

K

Kakodyl of valerianic acid, 118.
Kilauea, *T. Coan*, 63.
Kokscharov, N., on a crystal of Fischerite, 449.

L

Leidy, J., on extinct species of American ox, and other papers, noticed, 303.
Lens of Rock crystal of Nineveh, 122.
Level, changes of, in the Pacific, *J. D. Dana*, 157.
Light, Epipolic dispersion of, 270.
note on, by *W. Gibbs*, 272.
polarization of, 175.
Lightning conductors, 111.
Logan's Report on Geology of Canada, noticed, 129.
Lustre, on Dove's theory of, 125.
Lyman, C. S., Auroral Bow of June, 1852, 55.

M

McGillivray W., obituary of, 295.
Magno-crystallic action, *Tyndall*, 124.
Mahan, D. H., Industrial Drawing by, noticed, 302.
Mantell, G. A., obituary of, 147.
Mastodon, cranium of, *J. Wyman*, 48.
giganteus of Dr. Warren, noticed, 367.
Mather, W. W., on argentiferous galena in Arkansas, 450.
on a Coal bed of Perry Co., O., 450.
Mathiot, G., Electrotyping operations of the U. S. Coast Survey, 305.
Mercury, permeability of Metals to, *J. Nicklès*, 107.
Meter, verification of a standard, 113, 413.
Meteor, observed at Toulouse, 230.
Meteoric Iron of S. Africa, etc., *C. U. Shepard*, 1.
Report on, by *W. S. Clarke*, 7.
from near Seneca River, *C. U. Shepard*, 363.
stone of Gütersloh, 290.
Meteorological observations at Burlington, *Z. Thompson*, 355, 459.
Journal at Marietta, *Hildreth*, 243.
Microscope, binocular, *J. L. Riddell*, 68.
method of illuminating, *J. L. Riddell*, 69.
new kind of achromatic condenser for, *J. L. Riddell*, 69.
method of exhibiting phenomena of diffraction with, *O. N. Rood*, 327.
Miller's and *Brooke's* Mineralogy, reviewed, 41.

Minerals—
Algerite, form of crystal of, 440.
Alizite, 439.
Allanite (orthite), 441.
Alum from the Rocky Mountains, 434.
Amethyst in North Carolina, 373.
Analcime, 446.
Apatite, pseudo-apatite an impure, 434.
Argentiferous Galena from Arkansas, 449.
Arragonite of Hoboken, *Smith* and *Brush*, 215; of Thuruberg, 434.
Arsenical Nickel, 447.
Berthierite in the Vosges, 443.
Beryl, analyses of, 442.
Bowenite and Williamsite, identical with Serpentine, *Smith* and *Brush*, 212.
Bronzite, *T. H. Garrett*, 332.
Calc Spar, crystallization of, 434.
Carrara marble, analysis of, 434.
Chalcedony in North Carolina, 373.
Childrenite, analysis of, *Rammelsberg*, 435.
Chlorite of the Urals, *Kokscharov* on crystals of, 437.
Chondrodite, crystallization of, *J. D. Dana*, 413.
Chrysocolla, 447.
Cinnabar, crystallization of, 447.
Cinnabar of California, 447.
Clinochlore, figure of crystal of, 436.
Copper, native, of Lake Superior, 446.
Copper ore of the upper Mississippi, *D. D. Owen*, 446.
Copper ore containing gold, 446.
Copper ores of Australia, 447.
Corundum in North Carolina, *C. L. Hunter*, 373.
Datholite of Isle Royal, *Whitney*, 435.
Diamond in Australia, 433.
Diamond in North Carolina, *C. L. Hunter*, 373.
Dimorphin, a new mineral, 431.
Dolomite of Texas, Pa., *T. H. Garrett*, 334.
Emerald Nickel, analysis, *T. H. Garrett*, 332.
Emery in North Carolina, 373.
Emerylite, *G. Rose*, 442.
Emerylite identical with margarite, *J. L. Smith* and *G. J. Brush*, 207.
Epidote, *R. Hermann*, 442.
Euclase, analysis of, 442.
Euphyllite, *Smith* and *Brush*, 207.
Feldspar of the Lake Superior Region, analysis of, 440.
Feldspar, glassy, 433.
Fischerite, crystallization of, *N. Kokscharov*, 449.
Fowlerite of New Jersey, 438.
Franklinite, *A. C. Farrington* on magnetic character of vein of, 445.
Galena, argentiferous, in Arkansas, *W. W. Mather*, 450.
Galena of the upper Mississippi, 446.
Garnet of Haddam, analysis of, 441.
Garnet resembling Schorlomite, *C. Bergemann*, 441.
Gold, crystal of, *C. U. Shepard*, 448.
Gold of Canada, 448.
Gold in North Carolina, *C. L. Hunter*, 373.
Gold in Pennsylvania, 448.
Gold in Vermont, 147.
Gymnite, 435.

MINERALS—
Heavy Spar, analysis of, *E. Riegel*, 434.
Heterosite, 445.
Hone slate of the Lake Superior Region 439.
Hydromagnesite, *Smith* and *Brush* on, 214.
Iridosmine and Platinum of California, 246; of Canada, 448.
Iron ores of the Des Moines Coal Fields, 444.
Iron ores of Lake Superior Region, 444.
Kämmererite, 438.
Kämmererite of Pa., *T. H. Garrett*, 332.
Kerolite of Unionville, *Smith* and *Brush*, 211.
Kyanite in North Carolina, 373.
Lancasterite, *Smith* and *Brush* on, 213.
Lapis Lazuli in the Andes, 442.
Laumonite of Storr on Skye, 440.
Lazulite in North Carolina, 373.
Leadhillite in South Carolina, 446.
Leonhardite of Copper Falls, 440.
Leopardite in North Carolina, 373.
Limonite containing Vanadium, 444.
Manganese ore from India, 444
Marble of Lake Superior Region, 434.
Matlockite, 446.
Melinophane, a new mineral, 432.
Mica of Litchfield, *Smith* and *Brush*, 210.
Mica, *Etling*, 441.
Misenite, a new sulphate of potash, 433.
Molybdate of Lead, 446.
Molybdenite near Reading, Pa., 443.
Montmorillonite, 433.
Native Iron, *Dr. Andrews*, 443.
Natrolite of Renfrewshire, 440.
Nickel, arsenical, 447.
Novaculite of the Lake Superior Region, 439.
Opal, analyses of, *G. Bischof*, 435.
Opal from Asia Minor, analyses of, 435.
Orangite, analysis by *Damour*, 442.
Orthite in Syenite, near Dresden, 441.
Osteolite, a new mineral, 431.
Pectolite of Isle of Skye, 439.
Pennine, 438.
Petalite, *Hermann*, 441.
Petalite, *C. Rammelsberg*, 277.
Phlogopite of the Vosges, 441.
Pimelite, *W. Baer*, 439.
Pipe clays of Nassau, 439.
Platinum of California, 246; of Canada, 448.
Pyrites, nickeliferous, at Gouverneur, 444.
Pyrosclerite, 332, 438.
Pyroxene, *Hermann* on, 437.
Quartz, large crystal of, 435.
Rhodonite of New Jersey, 438.
Rhodophyllite, *F. A. Genth*, 438.
Sanidin, or glassy feldspar, 433.
Schorlomite, *Rammelsberg* on, 443.
Scleretinite, a new mineral resin, 433.
Scolecite of Mull, 440.
Selenite of Iowa, 434.
Serpentine in Canada, analysis, 436.
Silver, chloro-bromid of, 447.
Sphene of Grenville, Canada, analysis of, 442.
Spodumene, *C. Rammelsberg*, 277.
Spodumene and Petalite, *Hermann*, 440.
Sulbite, 441.

MINERALS—
Tabergite, 436.
Tabular Spar, note on crystals of, 449.
Tourmaline, *C. F. Naumann*, 442.
Tourmaline, *R. Hermann*, 442.
Triphyline of Bodenmais, 445.
Triplite of Norwich, *C. U. Shepard*, 445.
Triplite of Norwich, note on, by *J. D. Dana*, 445.
Trona from the Rocky Mountains, 433.
Unionite identical with oligoclase, *Smith* and *Brush*, 211.
White Lead ore of Teesdale, 446.
Zeolites of Scotland, *A. J. Scott*, 439.
Zircon near Reading, Pa., 443.
Minerals, reëxamination of some American, *J. L. Smith* and *G. J. Brush*, 207.
accompanying Chromic Iron, *T. H. Garrett*, 332.
of western North Carolina, *C. L. Hunter*, 373.
Mineralogia, Elementos de, of Domeyko, noticed, 431.
Mineralogical Notices, 430.
Mineralogie, Elemente der, by Naumann, noticed, 430.
Mineralogy, Brooke and Phillips's introduction to, reviewed, 41.
Mineralsystem of G. Rose, noticed, 430.
Mohl, H von, Principles of the Anatomy and Physiology of the Vegetable Cell, by, noticed, 453.
Mollusca of North Britain and Mediterranean, depth of some species, 205.
Mounds in Alabama, *A. Bigelow*, 186.
Myriston, 120.

N

Nebulæ, memoir on, by Prof. S. Alexander, noticed, 300.
Nicklès, J., a new kind of electro-magnet, 104, 340.
permeability of metals to mercury, 107.
Correspondence of, 109, 263, 413.
Niepce on heliochromics, 272.
Norton's Literary Register, 156.
Norton, W. A., on Ericsson's Caloric Engine, 393.
Nyctaginaceæ, 319.

O

Obituary of von Buch, 464.
D. Drake, 150, 291.
W. McGillivray, 295.
G. A Mantell, 147.
A. D. Stanley, 464.
S. C. Walker, 293.
Opium, Alkaloids in, 428.
Oregon, Washington Territory part of, 462.
Owen, D. D., Report by on Geological Survey of Wisconsin, etc., 296.

P

Pacific, Changes of Level in, *J. D. Dana*, 157.
Palæontographical Society, 154.
Palæontology of New York, by *J. Hall*, 466.
Paper, note on manufacture of, 268.
Parallax of a star, 457.
Pasteur, on a case of isomerism, 109.

Perrey, Alexis, Titles of Memoirs of, 155.
Phosphatic nodules in Silurian rocks, *T. S. Hunt*, 129.
Phosphorescence of the sea, *A. de Quatrefages*, 193.
Phosphoric acid in human economy, *D. Breed*, 275.
Photographic pictures, positive, 119.
Photography, forms produced in, by lenses and mirrors of different sizes, 121.
Pisciculture in France, 425.
Planet, 19th Asteroid, Fortuna, 283, 457.
20th Asteroid, Massalia, 135, 283.
21st Asteroid, Lutetia, 283.
22d Asteroid, Calliope, 283.
23d Asteroid, Thalia, 284, 457.
Plants, Catalogue of U. S. medicinal, by A. Clapp, noticed, 466.
of the Family Nyctaginaceæ, new, *A. Gray*, 259.
Cryptogamous, on sexual organs in, *A. Henfrey*, 25.
on the vegetable cell in, *von Mohl*, 145.
on antheridia in algæ, 455.
Trichomanes, in Alabama, *A. Gray*, 324.
works on, noticed, *Sartwell*, 129; *Agardh*, 131; *Tulasne*, 132, 455; *Seeman*, 133; *Walpers*, 133; *von Mohl*, 279, 451; *H. Schacht*, 279; *Lindley*, 280; *O. Heer*, 280; *Hooker's* N. Zealand, 456; *Lehman's* Oak Vegetation, 456; *Martius*, Fl. Brazil, 456.
Polarization of light, 175.
Pritchard's History of Animalcules, noticed, by *J. W. Bailey*, 299.
Proteus anguinus, *J. C. Dalton*, 337.

Q

Quarterly Journal of Microscopic Science, noticed, 155.
Quartz lens of Nineveh, 122.
Quatrefages, on phosphorescence of the sea, 193.
Quinidine, sulphate of, 269.

R

Rammelsberg, C., on petalite, spodumene, humite, etc., 277, 279.
Refraction, double, in tesseral crystals, by pressure, 111.
Regents of the University of New York, Report by, noticed, 303.
Reptiles of Stansbury's Report, noticed, 131.
work on American, by *Baird* and *Girard*, noticed, 465.
Reptilian fossil bones in coal rocks of Nova Scotia, 279.
Riddell, J. L., binocular microscope, 68, 143.
on illuminating opake objects for the microscope, 69
new kind of achromatic condenser, 69.
Riddell, W. P., on Soleil's saccharimeter, 175.
Rocky Mountains, geology and palæontology of, *J. Hall*, 126.
ice spring in, 146.
Rood, O., on the Paramecium aurelia, 70.
method of showing diffraction with the microscope, 327.
Ruhmkorff's apparatus for transforming dynamical into statical electricity, 114.

S

Saccharimeter, Soleil's, *W. P. Riddell* on, 175.
Sal-ammoniac, method of removing in analysis, 94.
Sartwell, H. P., Carices, noticed, 129.
Scacchi, A., on dimorphin, 431.
Schiel, T., separation of manganese from iron and nickel, 275.
Sea, on the phosphorescence of, *A. de Quatrefages*, 193.
Seeman, Botany of H. M. S. Herald, noticed, 133.
Shepard, C. U., on meteoric iron of S. Africa and presence of potassium, 1.
on meteoric iron of Cayuga Co., N. Y., 363.
on nickeliferous pyrites of Gouverneur, and triplite of Mass., 444, 445.
on a crystal of gold from California, 448.
Shooting stars of August, 1852, 136.
Silbermann's method of determining dilatations, 413.
Silk, on coloring, through food of silk worms, 269.
Silliman, B., Jr., Principles of Chemistry by, noticed, 150.
Smith, J. L., on removing sal-ammoniac in analysis, 94.
on determining the alkalies in minerals, 234.
analysis of magnesia opal, 435.
Smith, J. L., and *G. J. Brush*, reëxamination of some American minerals, 207.
Snow-line, height of, in different regions, 249.
Soleil's saccharimeter, 175.
Sound, velocities of, in different substances, 218.
relations of architecture to, 215.
Spheroidal state, engine employing water in, 420.
Spores of Cryptogamia, 25.
Stanley, A. D. obituary of, 464.
Stansbury's Expedition to the Great Salt Lake, noticed, 133.
Star, parallax of, 457.
Steam, on extinguishing fires by, 267.
Stereoscopes, notice of, 140, 288.
chromatic, 289.
Stibmethylium and its compounds, 117.
Stöckhardt's Chemical Field Lectures, 301.
Stokes, on the epipolic dispersion of light, 270.
Subsidence in the Pacific, 157.
Sun, on the spots of, 290.

T

Telegraph from Europe to Africa, 270.
Telegraph, Lectures on the Electro-magnetic, by *L. Turnbull*, noticed, 153.
Temperature of a part of the Pacific, *W. C. Cunningham*, 66.
Temperature Chart, 459.
Temperatures, causes of change in, *W. Hopkins*, 72, 248, 334.
mean annual, of different parallels of latitude, 82.
Thompson, Z., Meteorological observations at Burlington, 385, 459.

Thuret, on the zoospores of Algæ, 455.
Toronto Observatory, 287.
Tulasne, L. R., Mon. Podostemacearum, noticed, 132.
on spermogonia in Lichens, 455.
Turnbull, L., on the telegraph, noticed, 153.
Tyndall, on magno-crystallic action, 124.

U

Upham J. B., on acoustic architecture, 215, 348.

V

Valerianic acid, anhydrous, 273.
Volcano of Kilauea, and M. Loa, *T. Coan*, 63.

W

Walker, S. C., obituary of, 293.
Warren, J. C., on Mastodon giganteus, noticed, 367.
Washington Territory, exploration of, 462.
Wertheim, on producing double refraction in tesseral crystals, 111.
Wetherill, C. M., on molybdenite, zircon and gold in Pennsylvania, 443, 448.
Winslow, C. F., on the supposed elevated coral of Maui, 459.
work by, on Cosmography, noticed, 465.
Wright, C., collections of plants by, described by *A. Gray*, 259, 319.
Wyman J., on the cranium of the Mastodon, 48.

Z

Zodiacal light, *H. R. Birt*, 120.
Zoological distribution, on temperature as limiting it in depth in the sea, 204.
Zoology in Stansbury's Report, 134.